56. **Geothlypis trichas.** MARYLAND YELLOW-THROAT.— A common resident throughout, the region being perhaps more common on the mountains than lower down.

57. **Icteria virens.** YELLOW-BREASTED CHAT.— Found at Hazle Creek Junction, Hazleton, Morea and Mt. Carmel.

58. **Sylvania mitrata.** HOODED WARBLER.— Rather common at both Hamburg and Pottsville, but not extending north of the latter place.

59. **Sylvania canadensis.** CANADIAN WARBLER.— A pair seen at Delano, on June 29, and another at Hazle Creek Junction, June 19. Both pairs were seen in low damp ground and were feeding their young.

60. **Setophaga ruticilla.** REDSTART.— One family was seen at Pottsville and several individuals at Harvey's Lake.

61. **Galeoscoptes carolinensis.** CATBIRD.— Common throughout the region.

62. **Harporhynchus rufus.** BROWN THRASHER.— Generally disturbuted, but not common.

63. **Troglodytes aëdon.** HOUSE WREN.— Generally common, especially around Delano and Hazleton in the dead trees. I did not see them about Penn Haven Junction.

64. **Sitta carolinensis.** WHITE-BREASTED NUTHATCH.— Saw three or four at Mt. Carmel and one at Rock Glen.

65. **Parus atricapillus.** BLACK-CAPPED CHICKADEE.— A few seen at Pottsville, Hazleton and Penn Haven Junction.

66. **Turdus mustelinus.** WOOD THRUSH.— While pretty generally distributed, the Wood Thrush was rather more common at Pottsville and Rock Glen than further up the mountains.

67. **Turdus aonalaschkæ pallasii.** HERMIT THRUSH.— A pair observed near Pottsville and one also heard at Rock Glen, but I did not secure any specimens.

68. **Merula migratoria.** ROBIN.— Rather scarce all through the coal-fields.

69. **Sialia sialis.** BLUEBIRD.— On July 22 I heard three or four Bluebirds near Hazleton.

FEEDING HABITS OF THE ENGLISH SPARROW AND CROW.

BY SYLVESTER D. JUDD.

IN 'The English Sparrow in America' (Bull. U. S. Department of Agriculture) Prof. W. B. Barrows has shown what a pest the Sparrow is. I wish to comment upon several of the hundreds of

interesting facts that Prof. Barrows has presented in such admirable form. First I shall speak about the destruction of dandelion seeds. In May, 1894, at Cambridge, Mass., and during the last two springs here in Washington, Sparrows have been observed eating dandelion seeds.

After the yellow petal-like corollas have disappeared, the flower presents an elongated, egg-shaped green body with a downy tuft at the upper end. It is in this stage of the flower cycle, that the dandelion suffers from the attacks of the English Sparrow. The bird removes several of the scales of the inner involucre by a clean cut close to the receptacle, thus exposing the plumed seeds, or, more properly speaking, achenes. He seizes a mouthful of them between the plume and seeds, and then by a cut of the bill the plumes are lopped off, while the seeds are swallowed. In many cases, especially when hunger presses, the trouble of removing plumes is not taken. The Sparrow generally drops a score of seeds in tearing open a flower, and usually leaves the few seeds that cling to the periphery of the receptacle. The mutilation caused by the Sparrow's beak can be detected until the flower stalk dries and falls.

On the 29th of last April, I picked every dandelion flower stalk from a circle six feet in diameter on the grounds of the U. S. Department of Agriculture, where the lawn had a week previous been yellow with the flowers. One hundred and thirty-five of the stalks showed the unmistakable mark of the Sparrow's bill. More than half of the dandelions that bloomed in April on the lawns of the U. S. Department of Agriculture were damaged by Sparrows.

Later in the season, Sparrows feast upon the seeds of crab grass (*Panicum sanguinale*), which grows in profusion about Washington. The seeds of another crab grass (*Eleusine*), not included in Prof. Barrow's list, were taken from a stomach in June, 1895. In early spring the Sparrow often may be seen eating the first tender blades of grass. I have also seen it eating the leaves of *Chelidonium majus*. In Cambridge and Washington the Sparrows often subsist to quite an extent upon the seeds of chickweed (*Stellaria* and *Cerastium*).

Along with hundreds of other observers I have seen Sparrows

causing heavy losses in oat and wheat fields, pulling elm and peach blossoms to pieces, and flocking into the horticulturists' precincts to feast upon cherries, grapes, raspberries, and other fruits. Like most of our common birds the Sparrow derives a part of its sustenance from the animal world. Prof. Barrows has shown that insects of several orders, representing dozens of families, and hundreds of species, have been eaten by the Sparrow. Insects that fly in a zigzag course are more liable to escape birds than those that fly straight away. During August, 1895, in Washington, I have seen on several occasions a Sparrow pursue, capture, and eat piecemeal a cicada, which is a swift insect that takes a beeline course. On the other hand it is only after many unsuccessful attempts that a moth or flying grasshopper is caught in its hither and thither course. Common flies and wasps dodge an enemy. The same is true of the dragonfly (*Libellula*). I remember seeing a Sparrow dart from above and then from below, and then flutter up at one of these insects on the 'College yard' in Cambridge. Finally, after five minutes of fruitless attempts, the Sparrow, more by chance than skill, struck the dodging insect which fell disabled to the ground.

The Washington Sparrow finds it more profitable to breakfast on the insects that have been killed or disabled by electric lights. In the early morning during April and May he comes to the lamps to eat May beetles, and small predaceous ground beetles (Carabidæ). The entomologist, who visits the lamps after the Sparrows, finds only the hard wing covers (elytra) of the beetle he had hoped to collect. In spite of the insectivorous habits the Sparrow is branded a nuisance, because he pillages crops, disfigures buildings, and disturbs the peace by his never flagging, monotonous chirp.

Prof. Barrows, beside exposing the true character of the English Sparrow, has also dealt with the Crow in an economic manner. On page 22 of Bull. 6, U. S. Department of Agriculture, he describes a 'roost' at Arlington, Va., where every winter night over 100,000 Crows sleep. About their lodgings were found pellets which had been disgorged. These pellets consisted of seeds held together by sand. The most common of these seeds were,—dogwood, sour-gum, smilax, red-cedar, poison ivy, poison sumach,

and harmless sumach. The Crow takes a large proportion of corn during the winter, and may often be seen in large flocks visiting corn stacks. The quantity of insects eaten during the winter is small, for the Crow during the cold weather subsists principally upon vegetable matter.

Being anxious to learn how Crows glean a living when the ground is snow-covered, I went to Arlington, Va., on the 15th of last December. A flock of fifteen Crows was on the ground at the edge of the wood on the south side of a hill, where the snow had melted enough to leave bare spots as large as saucers. The dusky fellows were busily overturning leaves, and picking up something. They arose as I came quite near, and the several that cawed were Common Crows (*Corvus americanus*). The ground where the birds had been looked as though it had been raked. Beside turning over the leaves, the Crows had picked into the earth. Upon turning over some leaves that had not been disturbed, I found berries of dogwood and sour-gum, and living insects. The berries at this time of year do not hang on the trees. Although no insects were found where the Crows had searched, under several leaves that had not been disturbed I found several spiders (*Drossus*), leaf-hoppers (*Proconia*), ants (*Camponotus malleus*), a ladybird (*Coccinella 9-punctata*), a harlequin cabbage bug (*Murgantia histronica*), and several smaller bugs. If the Crow were less wary it would be much easier to learn how it obtains insect food in winter. This same day I saw dozens of Crows in red cedar trees feeding upon the berries.

On March 15 I had another opportunity of seeing how Crows find food when the ground is covered with snow. On the southern side of the Washington 'Zoo,' which is a picturesque depression among rugged hills, was a field with several snow capped manure heaps which the crows had been making tracks about. In many places the snow, which was two inches deep, had been brushed away, and a shallow excavation dug in the frozen manure. Here apparently the only food was a large number of plump oat seeds which were filled with a soft white mass. I hope next winter to watch Crows at meal times when the ground is covered with a foot or more of snow.

There is much to be done in the study of the feeding habits

of our commonest birds. Every one knows in general what birds eat during the winter, but few can tell you whether the Junco takes any insects on the warmer days of January or not, or just what the Chickadee is eating when he hangs head downward from a lichen-grayed branch. We need more observers who go out with the spirit of the writer of 'The Brown Thrush in Eastern Massachusetts.'

SUMMER BIRDS OF NORTHERN ELK COUNTY, PA.

BY WILLIAM L. BAILY.

PUBLISHED lists of the summer birds of Elk, McKean, and Potter Counties, Pa., are so limited[1], it is hoped that the following report may be of some aid for comparison in our recent efforts to establish more accurately the breeding ranges of the birds of Pennsylvania, which must be based principally upon a series of careful lists and notes taken during the breeding season in localities scattered all over the State.

Few of us seem to have had the opportunity of visiting, for any length of time, these counties, and although two weeks was the limit of my stay, from the 18th of June to the 2d of July, 1894, I was enabled, on account of fair weather, to give almost my entire time to field work, so that my list ought to be fairly representative. John Reese was with me on most of my trips and proved a most useful guide and companion.

The table-land which spreads over a large portion of northwestern Pennsylvania, and especially that of McKean, Elk, and Potter Counties, is on an average almost as high as the crests of the mountains running diagonally across the State, the great topographical difference being that the table-land, which is separated from the mountains principally by the west branch of the

[1] "List of Birds observed near Bradford [McKean Co., Pa.]" by James A. Teulon, Quarterly Journal Boston Zoölogical Soc., 1883, p. 47.